

states that the restriction requirement has been made final. The Applicants affirm the election of the subject matter of claims 1-10 and 16-49.

Also at page 2 of the Office Action, the Examiner rejects claims 1-10 and 16-49 under 35 U.S.C. §102(b) as being anticipated by Funkenbusch et al. (U.S. Patent No. 5,271,833). More specifically, the Examiner states that Funkenbusch et al. shows a chromatography column as claimed using carbon having an organic group attached thereto, as set forth in the abstract. The Examiner further states that the reference shows similar types of organic groups in columns 9-19.

For the following reasons, this rejection is respectfully traversed.

Funkenbusch et al. does not anticipate the claimed invention, for several reasons. As a starting point, it is worthwhile to consider the substance of the claimed invention. The claimed invention involves a chromatography column having a stationary phase and a mobile phase, wherein the stationary phase is formed of carbonaceous material having attached at least one organic group.

As set forth at page 12, lines 8-13 of the present application, the organic group is attached to the carbonaceous material. More than one type of organic group can be attached, as set forth at page 12, lines 14-14. The various types of organic groups that may be attached are set forth throughout the specification, most particularly at page 17, line 24 to page 27, line 1.

By contrast, Funkenbusch et al. shows a completely different invention. As noted in the abstract, Funkenbusch et al shows polymer-coated carbon clad inorganic oxide particles.

The claims of the present invention make it clear that the organic groups are attached to the carbonaceous material. By contrast, Funkenbusch et al. does not show any sort of attachment between the polymeric coating and the carbon cladding. The text set forth at column 18, line 25 to column 19, line 45 of Funkenbusch et al. shows that the polymers are merely coated or encapsulated onto the carbon-clad inorganic oxide particles. No attachment is described. Therefore, in Funkenbusch et al.,

the polymeric coating is only a coating, and the Examiner does not point to any part of Funkenbusch et al. to show an attachment of the polymer to the carbon cladding. In light of that, the organic groups of Funkenbusch et al. are not attached to a carbonaceous material in the manner of the claimed invention. Consequently, Funkenbusch et al. does not anticipate the claimed invention.

Moreover, Funkenbusch et al. does not show the versatility and potential uses of the claimed invention. As noted at column 9, line 55 to column 10, line 13 of Funkenbusch et al., it appears that the primary purpose of the polymeric coating is to provide a kind of leveling effect on the absorptive qualities of the carbon cladding and the inorganic material. The cited text makes it clear that both the carbon cladding and the inorganic material contain sites that can react strongly with identified species. The polymeric coating merely seems to moderate the binding abilities of the two components (organic and inorganic), by providing a more “energetically homogeneous” surface, and making the particles “substantially hydrophobic,” as set forth at column 10, lines 9-10.

By contrast, as noted in the present application, the attached groups may be selected to tailor the properties of the column to highly unique separations. The Examiner has not indicated how Funkenbusch et al. teaches the specific organic groups of the dependent claims. Many of these groups are nowhere found in Funkenbusch et al. Also, for instance, the text at page 12, lines 14-24 of the present application describes how heparin can be attached to the carbonaceous material to separate lipoproteins. The Examiner has not pointed to any portion of Funkenbusch et al. that suggests a similar selectivity, nor does Funkenbusch et al. show the wide variety of organic groups set forth at page 17, line 24 to page 27, line 1 of the application. Additionally, there is no requirement in the claimed invention that the particles must be “substantially hydrophobic,” as is the case in Funkenbusch et al. All these factors suggest that Funkenbusch et al. lacks the versatility and potential uses of the claimed invention.

Request for Reconsideration
U.S. Patent Application No. 09/654,182

In light of the above, it is clear that Funkenbusch et al. does not teach the claimed invention, and, accordingly, this rejection should be withdrawn.

CONSIDERATION OF INFORMATION DISCLOSURE STATEMENT

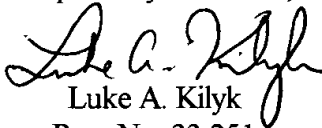
An Information Disclosure Statement was filed on August 6, 2001. The Examiner is respectfully requested to consider the documents set forth in this Information Disclosure Statement and to show this consideration by returning a copy of the form PTO-1449 which accompanied the Information Disclosure Statement with the proper initials and date. The undersigned appreciates the Examiner's cooperation in this matter. Also, attached is WO 97/47382 which is a counterpart of U.S. Patent Application No. 08/663,709.

CONCLUSION

In view of the foregoing remarks, the applicants respectfully request the reconsideration of this application and the timely allowance of all the pending claims.

If there are any other fees due in connection with the filing of this response, please charge the fees to Deposit Account No. 03-0060. If a fee is required for an extension of time under 37 C.F.R. § 1.136 not accounted for above, such extension is requested and should also be charged to said Deposit Account.

Respectfully submitted,


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Enclosure: WO 97/47382